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09/872,931

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Christian Hentschel

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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EXAMINER

CATHEY II, PATRICK H

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/872,931

Applicant(s)

HENTSCHEL ET AL.

Examiner

Patrick H. Cathey II

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 20-24 and 27-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-24 and 27-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 4/14/2005 have been fully considered but they are not persuasive. As for Claim's 20, 27-29, 32 and 37-39, Chau does in fact teach operating in different complexity modes and selecting a mode based on the complexity characteristics (Column 5, line 64 to Column 6, line 18; Column 9, lines 42-55). A microcontroller is in charge of controlling this M and I data (Column 5, lines 20-37).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both the references are being used in the MPEG format of video decoding and encoding. These are both forms of coding video data therefore able to be combined.

As for Claim's 21 and 33, only one of the listed must be present and Chau teaches at least the motion compensation which the same above mentioned citing (Column 5, line 64 to Column 6, line 18; Column 9, lines 42-55).

As for Claim's 22-24 and 34-36, Chau teaches the IDCT being controlled by the microcontroller (Column 5, lines 20-30).

As for Claim's 30, 31 and 40, Chau teaches the microcontroller being in control of a source of memory (Column 5, lines 31-38). A source of memory for a microcontroller in the form of processing image data should be known as obvious because you must have a memory of storing means in order to process the data.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim's 20-24 and 27-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan (US 5,596,369) in view of Panusopone et al. (US 6,647,061).

As for Claim's 20 and 32, Chan teaches at least one variable length decoder (Reference Number 32 in Figure 5), at least one compensator coupled to the variable length decoder (Reference Number 40 in Figure 5), a summing junction coupled to the inverse discrete cosine transform and motion compensator (Reference Number 44 in Figure 5) and a controller (Reference Number 36 in Figure 5). Chan also teaches

where at least one of the variable length decoder, inverse quantizer, inverse discrete cosine transform and motion compensator is coupled to the controller (Figure 5) and responsive to operate in one of a plurality of modes each having a given complexity characteristic for an acceptable distortion level of an output of the decoder and where the controller selects one of the modes based upon the given complexity characteristic (Column 5, line 64 to Column 6, line 6). The I and M variables are adjusted based on the complexity characteristics. Depending on the complexity characteristic, the length of time required for the motion pipeline to process the input M data and the length of time required for the transform pipeline to process the I data of the macroblock is adjusted respectfully.

Although Chan fails to teach at least one inverse quantizer coupled to the variable length decoder, at least one inverse discrete cosine transform couple to the inverse quantizer and coupling the variable length decoder and inverse quantizer to the controller, Panusopone et al. does (Figure 4). Since Panusopone et al. connects the VLD and the Inverser Quantizer to the Controller, it would have been obvious to one of ordinary skill to connect the Inverse Quantizer and VLD to the controller as well as the Motion Compensator and the IDCT to have more control and allow for more and efficient compression and better image quality.

As for Claim's 21 and 33, Chan teaches where the controller selects one of the modes further based upon an available amount of computing resources for operating at least one of the variable length decoder, inverse quantizer, inverse discrete cosine transform and motion compensator and one of the modes is substantially equal to the

available amount of resources (Column 8, line 49 to Column 9, line 55). This shows that inputs and outputs are calculated and then the motion compensator is calculated to use the exact amount of resources needed instead of wasting memory by using the worst-case scenario.

As for Claim's 22-24 and 34-36, many of the limitations have been addressed in the above rejections. Chan teaches where at least one IDCT is selectively operable in response to the controller (Column 5, line 64 to Column 6, line 6), where the selectively operated IDCT implements the selected one of the modes and where the complexity-distortion characteristic of the selected one of the modes is more efficient than those of the others of the plurality of modes (Column 6, lines 8-18). This shows that the less time used to process the information results in a more efficient mode. Although Chan fails to specifically teach a plurality of IDCTs for operating the different modes, Panusopone does show operating in the Intra and Inter modes with the use of one IDCT (Figures 4A and 4B). Since Panusopone shows the operation of the Intra and Inter modes with a single IDCT it would have been obvious to one of ordinary skill to use multiple IDCTs in order to operate in the I, P and B modes respectfully with their own individual IDCT. (Official Notice)

As for Claim's 27-29 and 37-39, many of the limitations have been addressed in the above rejections. Chan teaches further comprising at least one scaleable application that is responsive to the controller, where the scaleable application is operable in a plurality of modes, each of the modes having a different complexity characteristic and where the controller determines if available resources are not suitable

Art Unit: 2613

for operation of the scaleable application and selects another of the modes for the scaleable application (Column 7, lines 11-31). This shows that the M and I values are calculated for different input modes. The M and I values are scaled to accommodate the varying complexity-distortion characteristics. By scaling the M and I values, you vary the length of time required for the motion pipeline to process the input M data and the length of time required for the transform pipeline to process the I data of the macroblock.

As for Claim's 30, 31 and 40, Chan teaches comprising a memory accessible to the controller that includes data indicative of complexity-distortion characteristics of each of the modes for a plurality of amount of available system resources (Column 5, lines 15-19; See also Figure 5).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 2613

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick H. Cathey II whose telephone number is (571)272-7326. The examiner can normally be reached on M-F 7:30 to 5:00 (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick H. Cathey II  
Examiner  
Art Unit 2613

PHC

MEHRDAD DASTOURI  
SUPERVISORY PATENT EXAMINER  
TC 2600

*Mehrdad Dastouri*